

ABSTRACT

The present invention relates to a unique arrangement of induction heating elements with surface top materials creating an aesthetically pleasing cook top area. More specifically it relates to the integration of electric induction coils with a decorative high heat surface top such as granite, slate, concrete, Silestone or other suitable decorative surface and a method for proper placement of identifying markings for the cook top area.

FIELD OF THE INVENTION

The present invention relates to the integration of an electric induction coil with a suitable surface top material such as to produce a continuous and /or seamless flat top surface which would be deemed aesthetically pleasing to the eye.

BACKGROUND OF THE INVENTION

Previously developed induction cook tops use a cook top material such as ceramic and/or glass surface top material. This creates a discontinuity in the aesthetics of surface top area. The advantage of using such a new integration design would be that there would be no need for discontinuity of the top surface aesthetics with the added benefit of a continuous and/or seamless flat top surface with the cook top being invisible; except for the markings and/or material that would be used in order to identify the cooking area.

There is no need for heat-permeable material or a thermally conductive surface top material when using induction type of heating elements. The use of heat-permeable materials is sited within the current US patent 6,236,024. There is a lacking in the current state of the art in the use of other surface top materials which are stable and/or resistant to the presence of high heat from the cooking pot or pan with induction type of heating elements which would include the use of heat resistant materials such as Stone, Slate, Granite, Silestone and/or other suitable materials in the area of cook top design.

OBJECT OF THE INVENTION

The object of the invention is to properly arrange a cooking area and exactly position that area where desired, thus increasing the versatility and aesthetics of the cook top area. The placement of the induction heating element or elements under a granite surface or other suitable decorative surface top material substantially eliminates the disadvantages and weaknesses of the constructs and embodiments of other cook tops and provides for a more aesthetically pleasing installation with the added benefit of a more versatile cook top area.

Another object is to provide a means of maintaining a much cooler surface top area where the induction elements are active by means of using an insulator in said active area to greatly reduce the amount of heat that is propagated from the pot or pan used into the surface area below and surrounding said pot or pan.

A further object is to provide a means of indication that the cook top surface area is hot by means of using thermochromatic polymers, which may be decorative, and/or letters or symbols.

SUMMARY OF THE INVENTION

The present invention relates to the placement of induction heating elements under the chosen surface area to create and arrange a cook top area which is placed where desired which may be constructed into a seamless environment.

As a result of this arrangement claimed it becomes possible to substantially eliminate the cutting needed to install drop-in inductive heating elements but which does not preclude such cutting for inserting decorative Granite with differing colors and/or materials which may or may not be flush with the surrounding surface area.

The method of positioning the identifying cook top area and attaching the induction coils to the under side of the counter top may be accomplished in several ways a few of which will be described.

The most effective means of determining the exact position that needs to be identified as the cook top element area is by using flux paper or other visual aid which will identify the exact position of the active magnetic flux field areas thus allowing for exact placement of the markings and/or material for identifying the stove top elements.

Attachment of the induction elements may be accomplished by means of a sliding track which is attached to said induction elements which may be used that would allow for easy replacement of the induction coils if such a need arises. The track maybe mounted to the underside of the top surface or it may be mounted to the lower support structure such as the surrounding cabinet or to the floor directly by means of a suitable extension or support material. Attachment of the induction elements may be accomplished by means of a mechanical screw type attachment which may use a suitable insert material into the surface material from the under side, or a slotted rail maybe used which would be similar to the sliding track in functionality but with a simple slotted drawer type of design. Another possible method of attachment would be through the use of a suitable adhesive material.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is explained in greater detail below with reference to the exemplary embodiments that are illustrated in the accompanying figures.

FIG.1 is a bottom up view of one possible implementation of the concept.

FIG.2 is a side view of Fig 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG.1 shows a bottom up view of an arrangement of one inductive heating element placed under a granite counter top surface.

FIG.2 shows a side view of fig 1.

4 is the granite counter top or other suitable surface and 1 is the induction heating element with 2 being the support members which holds the weight of the induction element which is attached to the granite surface by means of an adhesive material not shown with mounting screws 3 used to physically secure the induction heating element to